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Vol. XXV] FEBRUARY 1959 [No. 8

* USE AND ABUSE OF STEROIDS IN SKIN DISEASES - (Contd.)

By

DR. M. NATARAJAN, M.B., Z.D.V. (Vien.), F.D.S. (Lond.) Madras.

Now, equipped with the knowledge, we will pass on to the institution of steriod therapy in skin diseases. It will be easier if we group them under three headings and deal with them in detail.

Groups

1. Conditions in which effects are excellent.

2. Conditions in which effects are encouraging.

3. Conditions where their use may amount to abuse.

Group I:

I. Robinson et al in studies of about 4000 patients state that the following conditions benefit. More than 85% benefit is the basis of this classification. The mode of application was topical.

1. Atopic dermatitis — moist, dry, infected.

2. Dermatitis venenata all causes, erythematous or infected.

3. Lichen simplex chronicus.

4. Nummular eczema.

5. Stasis dermatitis.

6. Intertrigo.

7. Seb. Dermatitis, and seb. derm. infected.

8. Pruritus ani et vulvi.

9. Erythema solare.

10. Coccal and bacterial eczemas.

11. Eczematous eruption of hands.

The varieties of local applications available are, 0·5%, 1% and 2·5% Hydrocortisone ointment.

0·5%, 1% Hydrocortisone Lotion.

·1% Fludrocortisone Lotion.

Fludrocortisone ointment with spectrocin.

Hydrocortisone with terramycin, with streptomycin with Bacitracin and Neomycin.

No serious systemic effects were noted with topical use of steroids. Steroid antibiotic combinations were highly effective when secondary infection was—

* Lecture delivered at the Trichy Branch of I. M. A. on 17—5—1958.

coexistent. In most conditions Hydrocortisone in concentrations of 1% and above were effective.

Fludro cortisone was effective from 0·1%. to 0·25% equalling 1% to 2·5% Hydrocortisone respectively.

Prednisone and prednisolone have been tried locally without any advantage over the other preparations.

In essence, it may be said, in self limiting inflammatory diseases of the skin, topical applications of steroids are very highly useful. They prevent Chronicity. In many instances they obviate systemic steroid therapy.

II. Pemphigus vulgaris (And the other types)

Carl Nelson et al in a study of 28 cases over a period of five years with cortisone, found 75% of the patients survived. The initial doses ranged from 300 to 1500 m.g. daily. Pemphigus, a relentless and highly fatal disease so far, held out no hope for the sufferer. Cortisone has certainly changed the pace, and now it is possible to prolong life and in many cases this may lead to a natural remission of the disease. Nelson states that although use of cortico steroids is not without risk the results may improve as experience is gained.

Prednisone and prednisolone are found to be much more useful than their parent bodies. Though detailed reports of their use are not too many now, there are indications that they may ultimately replace use of the cortisone and hydrocortisone. Between prednisone and prednisolone there is nothing much to choose. Their potencies and side effects are almost the same.

It will not be out of place to state that ACTH is essential during prolonged steroid administration. When the symptoms are severe 20 to 40 units of ACTH in 5% glucose in water 500 c.c. in a 6–8 hr. drip is advised. Stoughton states that ACTH never failed to supress blister formation.

In short, the corticosteroids have a definite place in the therapy of pemphigus.

III. Lupus Erythematosus:

The next malady that is considerably benefited by steroids is systemic lupus erythematosus. As stated earlier, steroids have a peculiar suppressive action on inflammations of the mesenchyme. So collagen diseases like L.E. are specially susceptible to the action of them.

Dubois in a study of 37 patients found prednisone and prednisolone 5 times as effective as cortisone milligram for milligram. The median maintenance dose required daily, was about 20 m.g. of the newer steroids.

In similar studies by others it was found that initial doses of about 35 m.g. of the newer steroids suppressed symptoms within a few days. 10 patients were studied by Bollet et al and they found malaise and anorexia clearing in a few days. E.S.R. diminished in all patients. Skin rashes and m.m. lesions all disappeared in two weeks. Leucopenia improved. All patients demonstrated L. E. Phenomenon in their peripheral blood and it was not influenced by prednisone therapy.

It has been stated earlier that topical prednisone and prednisolone have no marked clinical effect. The therapy of discoid L.E. is still with anti malarials mainly.

IV. Urticaria and other Allergies:

In very severe Urticaria where the offender is yet to be spotted, Cortisone is useful, provided it is given in high dosage. However it is not preferred for routine therapy. Severe anaphlactic

reaction was treated with prednisone, the patient improved in 2 days and the patient was free in the course of a week.

Severe allergies and allergic dermatoses due to ingestion of drugs, foods, bacterial and coccal allergies, serum reactions, allergic reactions following blood transfusions ex-foliative dermatoses etc., respond very well to steroids. The dosage must be individualised and hospitalization is preferred in administering very large doses.

Predisone was found to have marked anti-inflammatory effect on the various drug allergies. Scheiffarth says that more recent experiments showed that cortisone does not markedly affect anti body production. So their action be better explained as hormonal action on intermediate cellular metabolism than antibody inhibition.

It will be too elaborate to go into the details of each individual condition mentioned above. It will be clear that the steroids have a particular place in the therapy of these conditions.

We will pass on to the next group presently.

Group II.

The conditions where steroids are of benefit are the following :–**Lichen sclerous et atrophicus.** Topical use of steroids in this condition is encouraging though not always effective.

Prurigo nodularis is also said to respond to topical steroids. Psoriasis is said to be benefited, by some workers. It remains to be judged whether we are justified or not in using them for a disease which is almost certain to recur. It will be prudence to avoid their use.

Orally, systemic sclerosis or **Diffuse Scleroderma** is said to be benefitted by prednisone. Rodnan et al in a study of six cases found that 25 to 30 m.g. prednisolone daily, improved skin and articular manifestations. Skin improved, hyperpigmentation was reduced and swelling and tightness of skin improved in a week. In two cases with joint involvement, it had a potent anti-inflammatory effect. Oesophageal involvement was not affected by the steroid.

Lepra Reaction :–

In Lepra Reaction the cortisones are of considerable benefit. Very severe cases may need muscular or I.V. hydrocortisone. Usually oral use of steroids bring about the desired result in a couple of days. 20 to 30 m.g. of prednisone or 100 to 150 m.g. of cortisone will be about the dosage needed.

Dermatomyositis :—Dermatomyositis is another collagen disorder, that benefits with the steroids. Prolonged administration may be necessary to suppress the symptoms.

Sarcoidosis: Can be suppressed by continued use of steroids. However the symptoms may relapse after cessation of treatment.

Peyronies Disease : This is also known as plastic induration of the penis. Andrews recommends a solution of cortisone acetate 25 m.g. in 1 c.c. procaine soln. injected in to the plaques.

Acute generalised Lichen Planus is another condition that considerably regresses with the use of steroids.

Psoriatic arthritis considerably benefits with Cortico-steroids. Analgeic–steroids combinations are usefully employed-now a days.

Group III.

Under this are grouped conditions where steroid use may amount to abuse.

1. Lichen Planus

2. Discoid Lupus Erythematosus.
3. Morphea
4. Keratosis follicularis.
5. Alopecia areata
6. Epithelioma
7. Acne Vulgaris
8. Cutaneous parasitic infections.
9. Pustular bacterid
10. Herpes simplex
11. Verrucae.

Robinson et al found that topical applications of steroid preparations in above conditions were of very little or no value. Since the steroids are still expensive and beyond the reach of the common man of our country we must think twice before we advise them to patients who may have the afore mentioned conditions.

May I request you to bear with me for some time. After dealing with the steroidal sex hormones we will be at the end.

I now pass on to steroidal sex hormones. If I am permitted to say so they are misused many a time in dermatological maladies. They are useful hormones and when administered properly are of considerable benefit.

The Male sex Hormone :

A number of steroidal hormones have been isolated from the testis. Out of these the most potent androgen has been testosterone. So it was believed to be the 'male sex' hormone'. It is responsible for the development of secondary sexual characteristics. viz., facial hair, development of penis, deep voice, development of seminal vesicles, and prostate. If administered to females they develop secondary male sex characteristics. Of course this can partially be obviated by simultaneous administration of oestrogens. Equally important as androgenic effect is its anabolic or tissue building effect. It has also mild sodium, chloride and water retaining effects. A product which is not occurring naturally is methyl testosterone. It is useful to remember this point. Testosterone and Testosterone propionate when administered are excreted partially as 17—ketosteroids. Methyl testosterone is not excreted so. In fact it tends to suppress excretion of them.

Uses :—

1. **Pruritus Senilis**: In pruritus where all internal and external causes are eliminated Testosterone may be tried. Perandren Linguets or any other — testosterone pellet 100 mg. day will be useful. It is indicated only in long standing cases of pruritus of the elderly without any obvious cause. However it must be born in mind that pruritus may be the first indication of serious internal diseases like Hodgkin 's Disease, Lymphomas, Mycosis Fungoides Diabetes and Tuberculosis etc.,

2. **Dermatomyo sitis** : Andrews states that in Dermatomyositis Testosterone propionate must be given I M. 50 to 100 mg. twice weekly.

3. **During Steroid Therapy** : During prolonged administration of steroid therapy it was already stated that there is negative nitrogen balance. Testosterone 10 to 25 mg. daily may counteract this state.

Female sex Hormones :

The two steroidal hormones of the ovary estrogen and progesterone are chiefly concerned with uterine changes. However they have a limited application in dermatology but useful ones. There are many — non steroidal preparations like diethyl stilbisterol, dienesterol, hexesterol etc.

Acne Vulgaris :

By and large hormone therapy for acne Vulgaris is safe and successful only in female patients. Torre recommends natural estrogens 1·25 to 2·30 m.g. daily for eight days starting ten days after the end of periods. Progestrone is helpful in cases accompanied by dysmennorhea. Estradil ointments for topical therapy are in vogue. In chronic cases they are beneficial. It can be used in both sexes. However the therapy should not be unduly long. Scherus recommends 10 mg. of Progynon Depot. The effect of one injection lasts for 3 to 4 weeks.

Rosacea :

In ladies in their late thirties or forties afflicted with Rosacea, Ostrogens are beneficial.

Keratoderma :

In Keratodermas of congenital origin ostrogen preparations topically are recommended by Andrews.

Familial Benign Chronic Pemphigus (Hailey and Hailey) :

Andrews states that a case was treated with 6000 units of progynon weekly for 18 months. Patient had complete and lasting cure without any side effects of the hormone therapy.

Before we conclude permit me to recapitulate the main theme.

Summary

1. The steroids — cortisone, hydrocortisone prednisone and prednisolone — are *not* wonder drugs to 'cure' diseases. But they are useful agents with potent properties that produce symptomatic relief.

2. All of them act similarly and qualitatively.

3. They should be used only when they must, and once started extreme care and vigilance is essential during therapy.

4. Complications should be considered, cautions must be cared for, and controls to check complications could be complied with.

5. Steroids are suitably utilised for skin disorders mostly topically, and often otherwise.

6. Steroid-sex hormones—testosterone and estrogen and progestorone — are employed for selected skin disorders.

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(Concluded).

* SOME COMMON FEVERS

By

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In that broad strip of no man 's land, which separates the organic from the functional, the physician looks on fever as a reliable sign post pointing towards the organic. But often he is deceived. In the army and police pyrexia is produced by purposeful trickery ; any one who has had occasion to treat these personnel will be familiar with those pranks ; and how to detect such frauds. In civilian practice, we have what is termed " habitual hyperthermia " seen predominantly in highly strong young women ; and is probably caused by an abnormally labile thermoregulatory apparatus. It is not uncommonly associated with flushing, dermotographia, bouts of tachycardia, transiet hypertension under stress, and other manifestations of vasomotor instability. Unlike the fever produced by deliberate fraud, the temperature in these patients rarely exceeds 100° F, and they make no attempt to weave it into a more elaborate syndrome. The rectal temperature is a reliable guide in assessing correct temperature. The temperature of freshly voided urine may also be taken as fairly reliable.

Failure of the temperature to follow the normal diurnal variations should arouse suspicion. Similarly, absence of tachy-cardia that usually accompanies the spikes of temperature (except in the Enteric groups of fevers) and rapid defervescence without sweating should raise doubts. The techniques far falsying temperatures are many, testing the temperature of freshly voided urine will often settle the matter. In the army I have had cases where soldiers inject themselves with vaccine etc. to produce fever to escape some rigorous duty.

The mechanism for the control of temperature lies in the Hypothalamus, its exact properties are not fully understood, but we know any fixed temperature is maintained by a balance between heat production and heat loss. Except for a slight diurnal variations, and the ovulatory rise in women, the temperature in health is remarkably constant. We are almost entirely ignorant of the mechanism by which the body temperature is increased in disease, the metabolic effects of pyrexia, and whether the pyrexia is advantageous to the organism. Clinically it is noticed the heart rate varies by 10 beats per minute for every 1° F change in body temperature ; and 1° F rise in tempereature gives a rise in BMR of 7%, so that a patient with a rise of 105° F has an increase of 50% in his metabolism. The chemical reactions of the body are speeded up.

Some stages in the febrile response have been identified experimentally. The administration of a pyrogenic substance is followed by a latent period, varying between species, but constant for a given species ; in animals it lasts 15 to 30 minutes, and in man 45 to 90 minutes. During this interval, there is a leucopenia, owing to sequestration of leucocytes in small blood vessels. It is suggested that during this sequestration the leucocytes release a pyrogenic substance, which probably combines with a factor contained in the α or β globulin in the serum. It is not known

* This is a Summary of a talk delivered at the South Arcot Branch of the Indian Medical Association on 14—6—1958.

how this factor or other factors exert their effects, but they may act directly on the thermoregulatory centres.

The suppression of pyrexia by cortisone was studied by inducing fever in rabits by administering either pyromen or native dextran. The suppression was independent of the initial leucopaenia, and the serum factor was unaffected. The conclusion is that cortisone must produce its antipyretic effect by acting on some "later and as yet undefined" stage of the fever mechanism ; probably by interfering with the liberation from leucocytes of the postulated initial pyretic substance.

A fever which lasts for more than the period anticipated by the attending Doctor, and which has not responded to his usual treatment is usually dubbed PUO — the U Standing for "unknown", in the army it used to stand for "undetermined" and now in medical terminology it stands for "uncertain" ; but personally I wish it stands for "unusual" and I suggest that fevers lasting many days be termed "Long Continued Fever".

In children, the Thermo-regulatory centre is not stabilised till about the age of six, so that diseases with fever as a constant feature in adults may not produce fever in children; and conversely a rise of temperature in children need not be indicative of any infection or any gross pathological changes. It is quite frequent to see children actively running about and playing and looking perfectly normal in spite of fever. This state of affairs makes the practice of paediatrics particularly difficult, and as fever is absent, many clinical conditions are missed, some times with fatal results. To quote a familiar example, Bronchopneumonia may not be suspected till the child is severally ill with convulsions and breathlessness ; and even then the diagnosis is often "Worms" because of the absence of Fever, thus increasing the fatality rate.

On the contrary a mild digestive upset, or a head injury, or dehydration consequent to heavy sweating, may give a high rise in temperature. Sometimes in the 2nd or 3rd day of life a temperature of 104 may be seen, but a clinical examination may not reveal anything abnormal ; and it promptly subsidies on administration of saline. The babies are normal, probably these are cases of fluid imbalance, The so called P U O is particularly common in children, all investigations prove negative and no diagnosis is made, but the fever eventually subsidies.

Before we come to the management of any fever, a correct diagnosis of the cause should be made ; this is not always so simple as it appears. Very often a fever has gone undiagnosed even till death has overtaken the victim. Determining the cause of fever can be a fascinating exercise, but it is expensive, and time consuming, and sometimes even major exploratory operations have to be undertaken. But the empirical use of antibiotics is condemned, and is becoming a menace to the community.

If one is to grasp the full significance of any fever the first important step is to take a careful history. How was the onset ? A few of the fevers e.g. typhoid fever and diphtheria commence insidiously ; but the majority are ushered in suddenly, very often with an attack of rigor. Sometimes the patient feels burning hot, head-ache, restlessness ; and vague pains in the limbs and back are also common symptoms in addition to the malaise and weakness. In many cases, apart from the gradual onset of fever, there may not be any attendant symptoms Ask for attendant symptoms like head-ache, back-ache. severe joints pains etc.

Rigors often indicate the sudden onset of pyrexia, we are all familiar with the rigor of malaria, occurring typically and regularly, wherein the patient shakes

the bed beneath him. The time of onset of rigor is of some value ; for in malaria it is commonly a forenoon rigor whereas in pyaemic conditions it is an afternoon rigor. Fever of pnumonia and small pox usually appear suddenly. In children convulsions take the place of rigors ; and here this is particularly alarming, and quite often a child is brought for treatment only when convulsions appear. This requires prompt attention, for if unattended may go on to coma, and coma often terminates in death.

The condition of the skin may help in diagnosis. Look for multiple abscesses. In most of the virus borne diseases, the skin has a peculiar flush. Eruptions or rashes are seen in Typhoid, cerebrospinal fever etc. Feel the skin ; a peculiar dry pungent heat is noticed in pneumonia, whereas in cholera or after a malarial rigor, it is cold and clammy.

To have a true picture of the course of illness, it is essential to maintain " charts " -a series of records. In acute cases, it should be taken 4th hourly. Then, we learn if the fever is continuous, remittent or intermittent each of which signifies a certain class of fever. If Kala-azar is suspected a chart showing second hourly temperatures will bring out the characteristic double rise. It is advisable to note the general reaction of the patient, both mental and physical, to the fever ; and to keep a check on the pulse, respiration, B. P. as the temperature alone is not indicative of the mischief that is going on. In Children the respiratory rate is the most reliable indication of Toxaemia.

During the course of a continuous fever, there may occur a sudden fall of temperature. The diagnosis already made may explain this drop, for example a crisis in pneumonia, then all is well, if not, the patient should be carefully re-examined, as sudden fall in temperature occurs in vascular collapse in typhoid, or after a severe haemorrhage, perforation or profuse diarrhoea.

The first step in diagnosis is a thorough physical examination ; run through carefully all the organs, common things missed are palpable abdominal glands, generalised by lymphadenitis a tender spot in the spine etc. The laboratory is of great value, as very often a minute examination of urine and stools reveals an unsuspected cause of fever. Blood examination is all important. Leucocytosis or leuco-penia each has its own significance. An unsuspected leukaemia is brought to light especially the aleukaemic leukaemia. One should not forget the ubiquitous malarial parasite. E.S.R is very greatly increased in only two conditions, Rheumatic fever and active tubercular lesions. Though Widal reaction is negative, blood culture may give a positive result for typhoid. Blood culture may not only give the diagnosis in Bacterial Endocarditis, but also specify the nature of organism involved to enable the choice and dosage of an antibiotic. A positive Weil-Felix reaction may be rarely obtained.

In many diseases fever is a constant feature, and often it is this fever that makes the patient seek medical aid ; but it is a common thing that fever is absent in many fatal diseases. Fever is such a common feature in certain diseases that the names of diseases contains the word fever e.g. Rheumatic fever, cerebrospinal fever, undulant fever etc.

Even in conditions where fever should be a constant feature, fever may be absent or mild and unnoticed e.g. in Typhoid. Just as a patient may present himself with Secondary or teritary manifestations of syphilis ; and deny the Primary chancre, because the primary lession had been very mild or entirely absent, so also a man may come to you with a heart lesion which you are definite is of rheumatic origin ; but still the

patient may not give history of fever with Joint Pains, because they were absent, or were so mild as to escape notice resulting in the diagnosis being missed during his child-hood.

In acute infection, when fever is absent the prognosis is grave, and usually denotes either an overwhelming infection or a complete lack of host resistance. Fever may be absent in Bacterial Endo-carditis, I have seen blood smears riddled with Malarial parasites, yet the patient from whom these smears were taken free from any fever.

In infections with Tuberculosis, and in chronic cases of Kala-azar, the patient may have fever, but he is unaware of it and so does not seek medical aid ; even if he approaches a doctor he may fail to make a thorough examination. Indeed any patient looking ill, and having fever, but not complaining of this rise of temperature, one should think of either one of the above two conditions. Recently a boy, eight years old was brought to me for examination because the parents thought he was under developed and under-nourished. Examination revealed generalised lymph gland enlargement with an oral temperature of 99·6°. Chest X-Ray showed marked hilar shadows with a small triangular opaque patch over the left midzone. Had this boy complained of fever, his condition would have been recognised earlier. It is very common to see patients with large livers and huge spleens and very much emaciated, but never complaining of any fevers ; and Leishman Donovan bodies have been identified from the sternal punctures, and very often from their peripheral blood smears. In pulmonary tuberculosis fever may be absent even with heavy infiltration. We have not fully understood the reason for this, but we know that there is no correlation between fever, toxicity and extent of lesion in Tuberculosis.

Non-pyogenic conditions, and conditions where no organisms involved may also give fever e.g. leukaemia. severe anaemia, dehydration etc. In myocardial infarction, about 24 hours after the infarct had occurred, the temperature rises ;. and this together with the congestion of the left base of the lung that is common, makes one diagnose pneumonia. The temperature may go up to 101°, or rarely upto 102°, and is presumably due to the infarct acting as a foreign body in a sensitive organ. In cases about to recover the temperature comes down to normal in five to seven days ; if not, the prognosis is bad. In a comatose patient, the high fever may mean, if the common causes are ruled out pontine haemorrage ; or some lesion of the Hypothalamus.

It is essential to remember that a mere rise of temperature dose not increase the Erythrocyte sedimentation rate ; this fact is useful in distinguishing common fevers from rheumatic fever and Tuberculosis, the two conditions where the sedimentation is greatly accelerated.

One of the problems in clinical practice is to diagnose the cause of long continued fever. A few of the conditions commonly missed are :

1. **Enteric** :

It is the atypical one that is missed and blood widal is not thought of until very late.

2. **Tuberculosis** :

Pulmonary Tuberculosis may be as easily missed as it is diagnosed. Chest X-ray may be clear yet sputum may be loaded with Tubercle Bacilli. Tuberculosis of the kidney, spine and mediastinum may not be easily clinically evident.

3. **Perinephric Abscess** :

This takes a long time to work its way to the skin ; and only then it is clinically recognisable.

4. Bacterial Endocarditis.

5. Urinary Infections.

6. Hodgkin 's Disease.

7. Lympho-sarcoma.

8. Actinomycoses of the lung or liver.

9. Malaria or Kala-azar.

10. Malignant Tumours; especially hypermephroma, as renal symptoms may not be present and pyelogram is usually normal.

11. Sub Diaphragmatic Abscess.

12. Lepra Fever.

13. Atypical Diphtheria.

14. Collagen Diseases. Here electrophoretic examination of the serum often reveals a suggestive increase of the gamma globulin fraction. Estimation of the sedimentation rate is as good.

Treatment.

I need not emhasise that correct diagnosis should precede any form of treatment. Specific treatment with adequate dose of the drug and continued sufficiently long is important.

When specific treatment fails in a case where the diagnosis is presumably correct, a careful re-examination of the patient is strongly indicated. It is important to remember that this therapeutic form of diagnosis is to be discouraged, for all therapeutic tests are of negative value, for e.g. a man with high fever showing an apparent response to quinine therapy may or may not be suffering from malaria, on the other hand, if there is no response to quinine then he is certainly *not* suffering from malaria.

Occasionally we come across cases of proved Typhoid not reacting to adequate doses of chloramphenicol, this may be due to infection by resistant strains. In cases with satisfactory response three or even four relapses may occur if insufficient dosage is adopted; but if fever recurs even after adequate dosage then look out for complications, the common ones being pulmonary tuberculosis, Tubercular meningitis. Pyelitis, chole cystitis and osteomyelitis. A sudden fall of temperature in a case of Typhoid is a pointer to some grave catastrophe such as perforation, vascular collapse, intestinal haemorrhage, or severe diarrohœa. These require prompt and adequate attention.

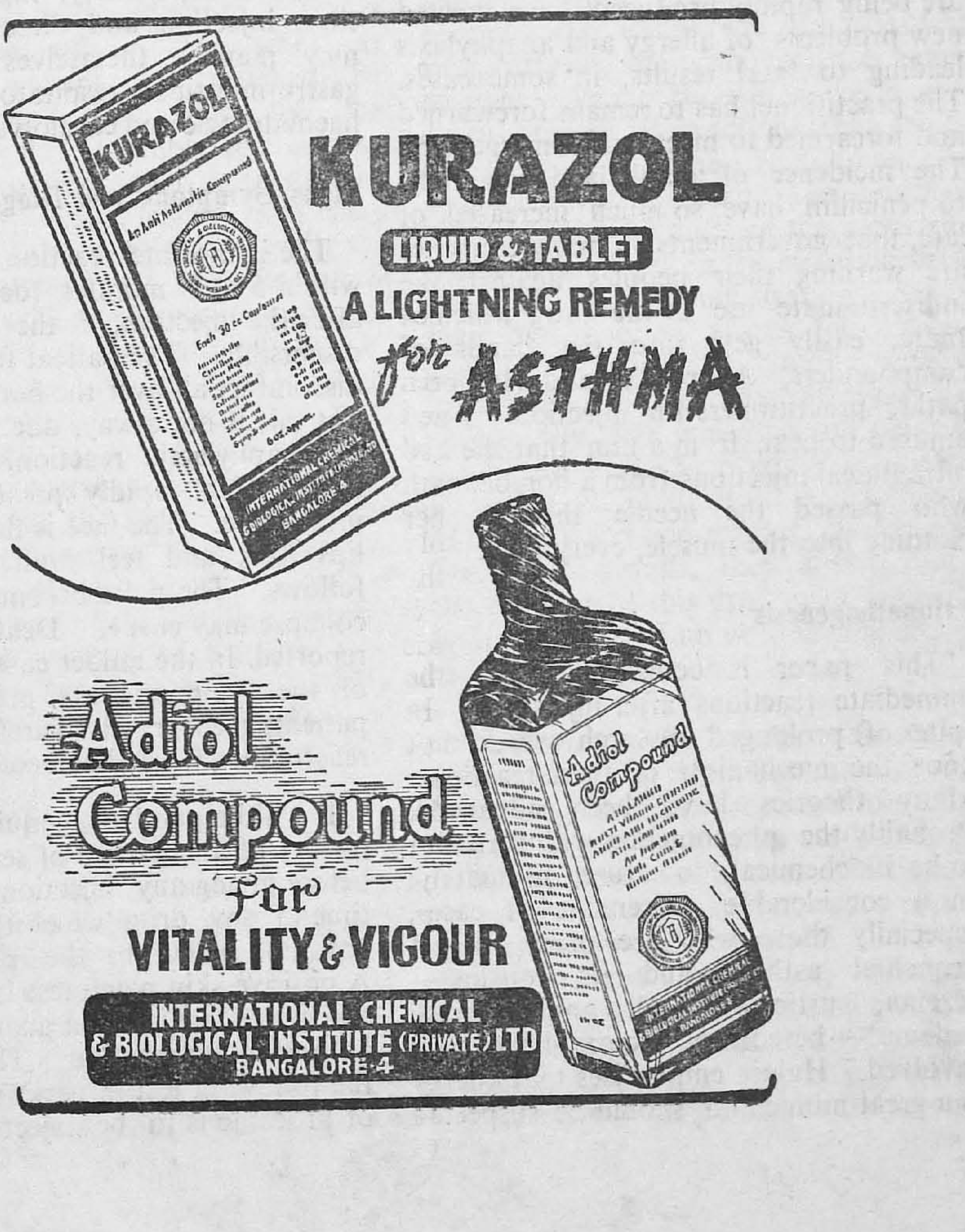
About two percent of Rheumatic fevers do not react to soda salicylate therapy. It is wise to switch over to cortisone then.

Exhibition of the specific drug also requires patience in as much as sufficient time must be given for the drug to achieve the pharmacological results; therefore do not be inpatient and change drugs at short intervals. Quinine in Malaria may require 72 hours to show results; and in cases of quartern malaria it may even require 96 hours for the temperature to settle down, although malignant tertian malaria responds in 24 hours. I have lived and worked in one of the most highly infected malarial tracts of the word, and there is no such thing as quinine resistant malaria. When intravenous urea-stibamine is given in acute cases of kala-azar one should wait till four injections are given, the temperature will be completely normal after the sixth injection. In Pulmonary Tuberculosis with strict bed rest it usually takes about 5 gms. of streptomycin to control the fever.

The usual non-specific measures such as bed rest in a quiet airy room etc. must not be forgotten. In summer during high fever, it is better to remove the clothing and nurse the patient in between sheets, this to a certain extent enforces confinement in bed. Tepid sponging is an excellent sedative in

children. In very high fever ice bag to head, ice enema, ice water bath or Dipping the patient slowly in a tub of ice water, or packing with pieces of ice may all be tried.

It is good to avoid the atropine group of drugs. Intravenous saline is given for salt depletion, and is particularly useful in Heat strokes. In malingerers (including some nurses who may fall into this group) the only treatment needed is to say that the temperature does not matter. In cholera, we have an apparently paradoxical feature which is evideneed even in the early stages by a high rectal temperature, and is in striking contrast to the great collapse and shock with cold clammy extremities and subnormal axillary temperatures. Intravenous saline is urgently indicated in cholera and we may run into further risk of hyperpyxia due to pyrogenic substances in the infusion fluid. Here De-oxycortone acetate in addition to the usual treatment is given for shock, and has a remarkable action in preventing as well as compating hyperpyrexial reactions, besides maintaining the B. P. usually the temperature settles down in 24 hours.



REACTION AFTER INJECTIONS

by

K. S. KRISHNAN, M.B.,B.S., F.I.C.S., *Madurai.*

Introduction :

"One man's food is another man's poison". The old adage is nowhere more applicable than in the case of hypersensitivity reactions. The word "Allergy" has been loosely used to denote supersensitivity to all sorts of substances, though originally it was coined for bacterial supersensitivity only, by *von Pirquet* in 1906. The antibiotics and a host of other synthetic drugs that are being rapidly produced have created new problems of allergy and anaphylaxis leading to fatal results, in some cases. The practitioner has to remain forewarned and forearmed to meet such emergencies. The incidence of anaphylactic reactions to penicillin have so much increased, of late, that governments in many countries are warning their peoples against the indiscriminate use of the drug which in India, easily gets into the hands of compounders, Ayurvedic and Homoeopathic practitioners for injection. I was amused to hear from a nun that she had intragluteal injections from a homoeopath who passed the needle through her clothing into the muscle, every time.

Etiopathogenesis :

This paper is concerned with the immediate reactions after injections. In spite of prolonged research we do not know the mechanism of these reactions. Many theories have been advanced. Probably the phenomenon will turn out to be biochemical, in nature, ultimately. In a considerable percentage of cases, especially those who are prone to get bronchial asthma and its cousins — eczema, urticaria and angioneurotic oedema — hereditory factors have been involved. Halpin emphasises that allergy is a great mimic and should be suspected in patients with a strong personal family history of allergy. Experimentally adrenalectomised animals are found to be more sensitive to histamine liberators. In normal animals, dextran and globin produce symptoms only in rats whereas vinyl pyrrolidone only in dogs. The histamine liberators are believed to release endogenous histamine which produces the symptoms. Allergens may enter the body by the usual four methods known to us, namely, ingestion, inhalation, injection and direct contact, and may manifest themselves through the gastro-intestinal respiratory, cutaneous, haematologic and cardio-vascular systems.

Signs, Symptoms and Diagnosis :

The immediate reaction usually starts within 5 to 7 minutes (occasionally less) after the injection, if the drug is easily dispersible. The patient feels a sort of discomfort all over the body. Some faint, but this is not always due to an allergic or anaphylactic reaction. There is an itching which rapidly spreads and becomes intolerable. The face is flushed and the lips look and feel swollen. Dyspnoea follows. The pulse becomes thready and collapse may ensue. Deaths have been reported. In the milder cases one or other of the symptoms are present and the patients recover, with careful watch and reassurance from the doctor.

It will be good to enquire about any history of allergy and of serum injections before giving any injection for the first time of any drug which the practitioner has not given to the patient before. A positive skin patch test is of value, but a negative test is not a guarantee against an immediate reaction. The author uses the following test in patients where sera or procaine is to be injected and where

there is suspicion of hypersensitivity to any drug suggested by the history. With a fine needle attached to the syringe (not necessarily an intracutaneous needle) a tiny dose of the drug is injected intracutaneously to raise a small wheal in the hairless part of the volar aspect of the forearm. The needle is not taken out but it is pushed in deeper, just farther enough to reach the subcutaneous tissues. That the needle bevel has got into the subcutaneous tissues can be judged by the sudden loss of resistance to the slowly advancing syringe. At this point just a drop of the drug is injected and the needle is withdrawn. A minute of two later a drop of serum or blood and probably also a little part of the drug will be seen to ooze at the puncture. This is gently rubbed off. The wheal as well as the patient are watched by one of the staff and seen by the doctor every few minutes for half an hour. The patient also is instructed to report any unusual feeling or itching attributable to the injection. Usually the wheal gets flattened out and disappears in half an hour. Sometimes it is surrounded by a zone of hyperaemia. By the end of 30 minutes only the point at which the needle entered is seen. In such cases the main mass of the drug is injected subcutaneously or intramuscularly as desired. On the other hand if the wheal becomes more and more hyperaemic and 'angry-looking' or if the patient complains of any unusual feeling, perspiration, itching, oedema of the lips with flushing of the face, it shows hypersensitivity. 0·5 cc to 1 cc of adrenaline is injected subcutaneously while the patient is made to lie down on a cot with its foot raised. When adrenaline injection is given, the plunger of the syringe should be withdrawn a little to make sure that the needle is not inside a venule in the subcutaneous tissue. When the reaction has subsided, if the original drug has to be given, a gradual desensitisation has to be done by injecting small quantities of the drug highly diluted first and then with gradually increasing quantities and strength till sufficient dosage has been given. This process may take a few hours, but it can be accelerated under cover of cortisone by mouth. I wish to emphasise that the intracutaneous test alone is not entirely reliable. The life-saving value of adrenaline is strongly supported by Swinney who thinks 'antihistamines and other measures should be condemned except as a palliative and supportive therapy'.

Some Specific Reactions :

Penicillins : Penicillin deaths are being recorded increasingly in the world medical literature. The increase in the incidence of anaphylactic reactions and mortality after penicillin injections, in communities where the drug is used frequently and indiscriminately, is coming to light. Depot penicillins cause more sensitisations and reactions than crystalline penicillins. It has been found that oral penicillin is much safer and even more effective because of the upsurge in the penicillin level in the blood occurring soon after the administration. Stollerman has reported a very low percentage of reactions to oral penicillin in children. Frankel and Stutsman gave successfully 540 injections of penicillin combined with Chlor-Trimeton maleate (Schering, N. J.) 20 to 40 mgms in each, in reactors and non-reactors to penicillin. From their results, they advise routine combination of this drug with penicillin, both being mixed up well in the syringe before administration.

Thiamine and B Complex : Sometimes high doses of thiamine, as are used nowadays, have been reported to produce reactions. In these cases antihistamines have not been useful but injections of adrenaline have brought about a reversal of the reactions. Chitwood and Moore report almost immediate circulatory collapse, a feeing of impending death and cessation of respiration, in a 52 year old patient after an intravenous injection of Vitamin B Complex. Intravenous

adrenaline and artificial respiration were without effect. This patient had had a number of injections of B Complex intramuscularly previously, followed by complaints of dizziness and weakness.

Insulin : It must be remembered that insulin is a complex protein. The injection may give rise to allergic reactions, when acting as a foreign protein.

Procaine : Immediate reaction to procaine is to be remembered. There are individuals reported to be sensitive to all ' Caines '. If reaction occurs after a procaine penicillin injection, it may be due to either the procaine or the penicillin fraction.

Serum : Allergy and anaphylaxis to horse serum are long known to us. In fact, the very ideas of allergy and anaphylaxis started with the earliest injections of anti-diphtheritic serum, at about the turn of this century.

Reports of Illustrative Cases

Penicillin : The first case in point I would report was not my patient, but one whom I knew. It was the case of a gentleman who died of penicillin under tragic circumstances, recently, in New Delhi. He was an officer of the Secretariat, who was dressed up, ready for the office in the morning. He telephoned to his busy doctor to come and give him a penicillin injection, as he was feeling rather feverish. The doctor came soon, gave him the injection and immediately left the place. A few minutes after the injection, the gentleman was feeling very ill. Frantic efforts were made to get the doctor again but within some minutes, the patient breathed his last. Further enquiry showed that the patient used to get mild reactions after penicillin and so used to take antihistamines, which unfortunately did not rescue him this time.

Mrs. K. aged 26 was a case of chronic gonorrhoea plus mitral regurgitation with a slight degree of cardiac decompensation. She had injections of Seclopen and Alprocin without any reaction. She was cured of the gonorrhoeal infection but a superficial erosion of the cervix persisted for a few months. A course of antibiotics again was considered to be useful. The second course was started with 4 lakhs of Alprocin intramuscularly. It was usual in my clinic to watch every patient for half an hour after injection of any drug which the patient has not had within one week preceding. This patient, while under our observation, complained of an itching sensation which rapidly spread all over the body in about 15 minutes. She was slightly sweating and the face was flushed. She was put to bed immediately and 0·5 c.c. of adrenaline was injected subcutaneously. She quickly improved and went home. The patient was sterile and was anxious to have a child. In view of her heart condition I had advised her not to wish for a child. She did not put her appearance in my clinic for nine months because of that advice. She went to a lady doctor, who did a dilatation of the cervix and curetting under general anaesthesia. A few days after that, there was acute pain in the lower abdomen and a foul discharge. The doctor removed from the vagina a guaze plug which she had put in and gave an injection of penicillin which I later understood to be an aqueous solution of crystalline penicillin. About 10 minutes after the injection the patient felt unwell and had slight itching. She complained and the lady doctor took her to task and told her that her fear and peculiar psychology were responsible. Mrs. K. returned home and sent an S. O. S. to me. I immediately visited her and found her to be having a severe urticaria. I gave her an injection of antistine and she got well by the evening. She had not had penicillin in any form since then. The point to note is that

while hypersensitivity (Or anaphylaxis, because she had injections before) in this case was due to penicillin fraction as established by later history.

In another case, Mrs. J., 15 minutes after an injection of Penicillin a few large vesicles appeared on the arms and forearms every time. This disappeared promptly with an injection of adrenalin and there were no later reactions.

Insulin: Mrs. L, aged about 42. The patient had a pelvic inflammation. She was in a dangerous condition. With treatment she got well. During this ailment she was found to have glycosurea which continued after complete recovery. She was given Lilly's insulin daily for a number of weeks. One day she got a fresh vial of the drug from the drug store and she was given the usual dose from it. She went to a relation's house nearby and was chatting. About 20 minutes after the injection she came back in an alarming condition. The face was flushed, lips swollen and there was a low volume of pulse and a dyspnoea, which was increasing minute to minute. The face looked very different from usual. She was put to bed immediately and 0·5 cc. of adrenaline was given subcutaneously. The patient was closely watched and reassured. Within another 20 minutes the patient got rapidly well and went home soon after. One point in this case is noteworthy. The same brand of insulin, and one which is well known for its high degree of purity was used. This shows that with every change of the vial of insulin whether it is of the same brand or another, it is good to watch the patient for half an hour before sending home.

Mrs. R. 28 years. This patient was getting treatment for tuberculous disease of the spine. Her blood pressure showed a fall and her general condition was going downhill. It was thought oral and intravenous glucose, with a tiny dose of insulin preceding, would improve the condition. She was given 5 units of insulin and that was the first and the last time so far she has had it. In about 10 minutes she felt unusually weak and said something was seriously wrong with her, Examination showed she was almost pulseless, cold and clammy. At once 0·5 cc. of adrenalin was given subcutaniously. The patient's pulse improved somewhat but still poor in volume for a few hours. She was given strong coffee as a stimulant. Antistine intramuscularly after an hour was administered. Another hour later not still satisfied with the pulse, a coramine injection was given. The condition became satisfactory in about 4 hours after the hypersensitivity reaction developed. In this case also a well known brand of insulin was used. Fortunately for me the patient is completely cured of the disease of the spine also and is having her normal activities for the past five years.

Procaine: A colleague was about to do a minor operation for a child under local anaesthesia. Barely had he injected a few drops of the drug, the child showed signs of collapse. He promptly gave an adrenaline injection which improved the patient only slightly. He rushed the child to the hospital to get the benefit of the iron lung, but by that time there was considerable improvement and the child recovered.

Serum: The patient whom I very nearly lost and recovered was Mr. M. aged 54. His son had diphtheria of the tonsils and was under my treatment. Mr. M. is a gentleman who reads books like "Home Medicine", "Home Doctor" etc. and is well informed. He asked all in the family to be immunised against Diphtheria because already one among them was having the infection. In this case I did not carry out the preliminary sensitivity test but watched the patient. I argued within myself that due to the heriditary etiology of the reactions, since

the son had no reaction to serum the father too, in all probability would not have it. That premise was belied by the event that followed on its heels.

The diphtheria patient's father, mother and two brothers all had simultaneously 2,500 units of antidiphtheritic serum (B. W. Brand). In these cases, as I mentioned above, I did not give the test for hypersensitivity but watched all of them. In 7 minutes after the injection, the gentleman reported he was having a sort of itching all over the body and a heaviness of the lips. His face was flushed. I put him to bed immediately and I found him cold and clammy. Before adrenaline could be rushed to him, his pulse became very feeble and almost imperceptable. I gave him the adrenaline (0·5 cc) intramusculary (not subcutaneously). The pulse did not improve and the patient definitely said that he felt as though he was dying. Immediately oxygen was switched on and given by a nasal catheter. The pulse could now be feebly felt but still the patient said he felt no improvement. An intravenous injection of Coramine was given slowly. This produced an anginal pain which disappeared in two or three minutes. As there was no improvement in five minutes one injection of Antistine was given intramuscularly. In another 10 minutes the pulse was slightly better but still not satisfactory. Coramine was repeated intramuscularly this time. Soon after, the pulse and the general condition improved and the patient felt well enough to move to another bed. I had struggled for nearly an hour and a half before I could relax myself. A week later one day he felt dizzy in the afternoon and I was urgently called. I found him to have a good pulse and a raised blood pressure, though he was not ordinarily hyperpietic. This late reaction responded to Sandosten calcium tablets. For about two months after discharge from the clinic he was having now and then a transient dizziness which disappeared with treatment. This patient had never had any serum injection before.

Streptomycin: Since finishing this article, a very valuable information has appeared in the medical press, which is worthwhile noting.

Strauss reports a case of fatal necrotizing angiitis in a 45 year old white female, previously treated with Streptomycin in a sanatorium. The patient died of anaphylaxis.

Lesson

Do not use penicillin indiscriminately and sensitise your patient unecessarily. Reserve it for timely use. Remember that the patient might have had penicillin before from qualified or unqualified persons, and beware of anaphylaxis. Every patient must be watched for any reaction for half an hour after the injection of any drug which the patient has not had within a week preceding. This warning holds good even for the change of brand of the same drug. Rely on adrenaline and keep it ready at hand's reach. Treat antihistaminics only as adjuvants, as the histamine liberator theory only partly accounts for the whole picture.

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MORPHINISM

by

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Drug addition is a problem in medical practice. The habit of opium addiction is as old as De quinecy's sentence "Oh just subtle and mighty opium". The Morphine habit is more common in nurses and doctors. Anxiety, depression, maladjustment and tedium vidaemay be avered as the possible excuses for cultivating morphia habit·. John Hunter used to nerve himself with 30 drops of laudanum for a lecture. The amount required for habit implantation and the continuance depends on the individual case.

Symptomatology of Morphinism.

The subject is pallid, sallow, with loss of appetite and refractory constipation. There is reduction of secretion produceing a dry cough and oliguria. Impotence, amemorrhoea retarded pulse and low blood pressure are other features. Transient euphoria is followed by physical and mental indolence; poor sleep entails an increasing resort to the drug.

Deprivation of the drug produces withdrawal symptoms. There is return of tears, coryza and increase in pulse and blood pressure, Salivation, nausea vomiting and diarrhoea with colicky spasm. The pupils dilate and muscular cramps may be produced.

Causes of drug addiction are obscure.

The phenomena of tolerance is explained as follows -

(A) **Biochemical disturbances:**

(1) **Neutralisation**:— The morphine is changed to oxidomorphine a substance which inactivates morphine.

(2) **Active immunity theory**:—Marked antitoxic properties are found in the serum.

(3) **Destruction**:—The tissues develop increased ability to destroy the morphine.

(4) **Cellular tolerance**:—Some cellular modification in morphine habitues.

(5) Muscles develop an increasing ability to store morphine.

(6) **Lecithin choline theory**:— The lecithin could fix morphine which replaced choline.

(7) There is a static action of morphine in habitues.

(B) **Physiological Disturbances**:—

(1) Stimulation and depression action.

(2) Autonomic and endocrinal imbalance.

The problem of abstinance or withdrawal symptoms is explained as follows:-

(*a*) Toxic action during withdrawal.

(*b*) The release theory:-The withdrawal symptoms are the inverse parallelism of morphine intoxication.

(*c*) Morphine withdrawal produces hydration of tissues.

(*d*) Morphine stimulates the cells as it leaves the cell. This is called exodic stimulation.

(*e*) There is possibly some endocrine hypofunction in morphine withdrawal symptoms.

(*f*) Dr. Chopra postulates a psychosis theory in morphine withdrawal symptoms.

(*g*) The stimulation and depression theory :—

The stimulation out-laws depression.

(*h*) An anaphylactic state suggested by Dr. Ostremesolensky.

Diagnosis of morphinism is suggested by the habit and the withdrawal symptoms. The telltale marks are evident. The morphine excreted in forces can be examined.

Treatment of Morphine addiction.

(1) **Abrupt method** :— The drug is withdrawn in 72 hours and the symptoms are treated. Hyoscine hydrobromide 1/100 gr. is helpful in controlling the excessive secretions produced by withdrawal of morphine. It is given once in 4 hours till it produces hyoscine toxicosis as dry mouth, enlarged pupils, delerium and visual hallucinations.

(2) **The rapid method** :- The morphine is cut off in 10 days and the patient is given a mixture of tincture of Hyoscyamus, belladonae and xanthoxylum.

R/

15% Tincture of belladonae — Two parts.

Ext. Hyoscyamus Liquidum — One part.

Ext. Xanthoxylam Liquidum — One part.

This mitigates the discomfort produced by withdrawal of morphine.

(3) **The gradual method** :— The drug is withdrawn gradually over a period of three months.

After care of the Patient:

Occupational therapy is essential. No cure be obtained without proper rehabilitation of the patient; otherwise he may relapse in to a habit again.

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ERRATA

The advertisment on IMPRUMYL - meprobamate appearing in the advertisement of Messrs Therapeutic Pharmaceuticals in our January 59 issue may be read as IMPRUMYL - Tolbutamide.

The error is regretted.

CASE NOTES *

A Case Of Suspected Thymoma

A boy of 5 years was admitted in the isolation ward of this hospital with dyspnoea and laryngeal stridor and the provisional diagnosis of laryngeal diphtheria. The child was having these complaints for one week. Previous to this, he was having cough with scanty expectoration for one month. On examination the child was found to be an ill-nourished, dyspnoeic boy with a diffuse swelling in the lower part of the neck with few mobile firm glands palpable on both sides of the neck. Both lung fields were full of rales and the bases were dull on percussion. Other systems were normal. The liver and spleen were not palpable.

An X-ray of the chest revealed marked widening of the superior mediastinum with increased hilar shadows.

The total leucocytic count was 12,600/c.m.m. and the differential count was P 36 L 57, E 7, E S.R. was 45 m.m. at the end of the first hour and 98 m.m. at the end of the second hour.

A diagnosis of mediastinal syndrome probly due to Thymoma was made and the child was sent to Madras for further treatment.

Discussion:— The mediastinum is the inter-pleural space, and occupies the median part of the thorax. It is divided into the superior, anterior, middle and posterior parts. The mediastinum may be the seat of inflammatory conditions neoplasms benign or malignant.

The pressure symptoms and signs constituting " the mediastinal syndrome " are:—

1. Pressure on the air-passages, giving rise to dyspnoea, cough and expectoration. The dyspnoea may be inspiratory and associated with stridor, or expiratory and paroxysmal. The cough may be harsh and " brassy ".
2. Pressure on or infiltration of the lung, leading to collapse and sometimes destruction of lung tissue.
3. Pressure on arteries.
4. Pressure on veins.
5. Pressure on nerves.
6. Pressure on the oeophagus.

In addition to the signs afforded by these various conditions. there may be glandular enlargements in the neck or in the axilla.

When signs of mediastinal pressure become apparent, the history, the general condition of the patient, physical signs, blood examination and X-ray may all help in the differential diagnosis.

Mediastinal syndrome may be seen in the following conditions:—

1. Inflammatory conditions: acute or chronic including mediastinal adenitis. Tuberculous mediastinal adenitis is a common condition.
2. Non-neoplastic space-occupying lesions such as intrathoracic goitre and aneurysms.
3. Benign tumours of the mediastinum like lipoma fibroma, Chondroma Myxoma and tumours of nerve origin.
4. Cystic tumours of the mediastinum, like mediastinal dermoid, mediastinal teratoma tracheobronchial cyst etc.

* Reprinted from the Proceedings of the North Arcot District Clinical Society 1957.

5. Malignant tumours of mediastinum, such as secondary carcinoma of lymph nodes, malignant connective-tissue growths, malignant teratoma etc.
6. Tumours of the Thymus such as thymoma lymphosarcoma.
7. Other conditions of mediastinal lymph glands such as Hodgkins' disease etc.

While it is not possible always to distinguish between the various pathological forms of mediastinal conditions, the site of the lesion or features in the history and examination may throw light on its structure. Radiological features and histopathological examinations wherever possible are additional aids.

In the case under discussion considering the age of the patient, the history, the clinical findings and the radiological features the diagnosis of mediastinal syndrome is obvious; but regarding the pathological nature of the super or mediastinal lesion, it is not possible to decide with certainty. Most probably it is a case of thymoma, tubercular adnenitis or Hodgkins disease.

* * * *

A case of Carcinoma of the Rectum treated by Abdominoperineal excision.

An operation undertaken for the cure of cancer, to be effective, must aim at the complete removal of the primary growth as well as the tissues pathologically prone to invasion by cancer cells from the primary focus. The surgical treatment of cancer of the rectum will be successful only if this radical extirpation is carried out. Various operative procedures have been devised with this end in view and following is a case of rectal corcinoma treated by the abdomino-perineal method of excision.

Case I Rathna Gounder, aged 60 years, was admitted on 23—5—1957 with the complaint of passing blood and mucus per retcum since 6 months. The complaint had started in the earlier stages with constipation. Of late he was having pain also during defaecation. During the past 6 months, he had lost weight considerably. Micturition was normal, but appetite was very poor. Previous history did not reveal any illness of importance.

On examination the patient was found to be a poorly nourished, anaemic individual without any jaundice or oedema with a normal skin and temperature.

The cardiovascular system, respiratory system and abdomen were normal.

On rectal examination, the anus and perianal regions were normal and about 4" above the anal margin a firm, irregular ulcerated growth with everted and nodular edges was felt over the anterior aspect of the rectum. The upper limit of the growth could not be palpated. It was friable to touch and was not adherent to surrounding structures. There was frank bleeding during and after the digital examination and there was blood in the examining finger. A sigmoidoscopy confirmed the findings of the digital examination and revealed the upper limit of the growth. A diagnosis of operable carcinoma of the lower part of the rectum was made and the patient was operated on 27—5—1957 and a one-stage abdominoperineal excision was performed with the establishment of a terminal colostomy.

Under general anaesthesia, the abdomen was opened through a low right paramedian incision and after exploration, operability of the growth was ascertained. The small intestines were packed off and mobilisation of the sigmoid colon commenced after ligation and division of the inferior mesenteric vessels at the level of the bifurcation of the aorta between the first and second sigmoid branches.

After application of clamps, the upper portion of the sigmoid loop was ligated and divided. Incision of the peritoneum on either side of the root of the pelvic mesocolon carried downwards mobilised the lower pelvic colon. The upper part of the rectum was also mobilised. Division of the lateral ligaments and ligation of middle haemorrhoidal vessels completed the abdominal dissection of the rectum. The pelvice colon and rectum were turned downwards into the retrorectal space and the gap in the peritoneum closed. The terminal end of the colostomy was brought out through a separate incision on the left side and the abdominal incision was closed in layers.

The patient was then placed in the lithotomy position and the perineal dissection was done through a transverse incision in front the anus and after excision of the coccyx. The separated anus, rectum and pelvic colon were then removed and the perineal wound closed after packing with vaseline gauze. The pack was removed on the third day and replaced by a smaller one. The perineal wound gradually closed up by granulation and the patient had an uneventful convalescence. The histopathological report of the growth was "*adenocarcinoma*".

Discussion:—It has been estimated that about 10% of all malignant tumours occur in the rectum and sigmoid colon and if the stomach is excluded, this is the commonest site for malignancy of the intestinal tract. It is nearly twice as common in men as in woman and occurs usually above 40 years of age, but not in frequently in earlier periods. The commonest pathological type is the adenocarcinoma, other types being the papilliferous carcinoma and the melanotic carcinoma. The growths may be annular, proliferative or ulcerative. The case under discussion typically occurred in an old male aged 60 and the growth proved to be an adenocarcinoma of the ulcerative from.

Cancer of the rectum may spread in any of these three ways:—(1) by direct extension through continuity of tissue; (2) by means of the lymphatic system; or (3) by way of the venous system. As the tumour grows, it begins to ulcerate in the centre, spreading through the bowel wall to the extra-rectal tissues. It is rare for the lymph glands to be involved until the perirectal tissues are invaded, but venous involvement may occur at any stage. Dr. Cuthbert Dukes has devised a practical and useful classification.—

Stage 1 in which the growth is limited to the rectal wall.

Stage 2 where the growth has spread by direct continuity into the extra-rectal tissues.

Stage 3 in which the regional lymph glands are involved.

Stage 4 with metastases in the liver and in the abdominal lymph glands beyond the operation field, general peritioneal metastases or deposits elsewhere.

The case presented here belonged fortunately to the stage 1.

It is of the utmost importance that the earliest symptoms indicative of the presence of carcinomatous growth in the rectum should be known and recognized. The disease is insidious in its inception and may exist for six months or more before giving rise to symptoms which are sufficiently pronounced to induce a patient to seek relief. Constipation due to a functional inertia of the colon is the first indication of disease followed by alternate constipation and diarrhoea, the passage of blood and mucus, tenesmus, rectal discomfort, anorexia, dypepsia and cachexia. Apart from tenesmus, pain is a late symptom except in low growth. Dysuria, pyuria, fistula, ascites, jaundice and oedema of legs occur in late stages of the disease. In pelvi-rectal growths the

symptoms are predominantly obstructive; in ampullary growths, the onset of symptoms is delayed until the growths as in the present case, bleeding tenesmus and discomfort are usually continuous. In all suspected cases rectal cancer, a thorough examination should be made digitally and by means of the proctoscope and sigmoidoscope.

It is a common experience that a very large proportion of the cases of carcinoma of the rectum that one sees have passed beyond the stage of useful operation. Fixation of the diseased part of the rectum either posteriorly to the sacrum, anteriorly to the postrate or bladder or to the uterus or vagina, or laterally to the walls of the pelvis, indicates that the growth has extended beyond the confines of the fascia propria, and that operation is out of question. In many cases. it is possible to assess the operability only by an exploratory laparotomy.

Various operative procedures have been devised in the medical treatment of this condition. These procedures are classified as follows :

1. Perineal excision with colostomy.

2. Abdominal or anterior excision with colostomy.

3. Combined excision :

   (a) Abdomino-perineal excision.

   (b) Perineo-abdominal excision,

   (c) Synchronous excision.

4. Restorative resection :

   (a) Anterior resection with intrapelvic anastomosis.

   (b) Pull-through operations:—

      (i) Abdomino-anal ;

      (ii) Procto-sigmoidectomy.

The above methods are available for the treatment of operable cases. In inoperable cases, if the disease is allowed to progress, obstruction of the bowel occurs sooner or later and therefore measures have to be adopted for preventing its onset. The means at our command for obviating obstruction is the establishment of a colostomy. Symptoms arising at later stages of the disease have to be treated by palliative measures.

In the case presented here, the case was found to be clinically operable and it was possible to do a radical operation by the abdomino-perineal method and the patient was discharged with a permanent functioning colostomy.

ASSOCIATION NEWS

ANAMALLAI BRANCH

A meeting was held on 22—11—58 with Dr. M. K. R. Jayachandran in the Chair. The meeting resolved that the Government may be requested to amend the Madras Labour Rules regarding the discipline of menials and medical staffs for efficient working of Plantation Hospitals.

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A clinical meeting was held on 20—12—1958 under the chairmanship of Dr. Jayachandran. A resolution was moved from the Chair on the death of Dr. P. Dharmapal, the founder member of the Branch. Dr. Jayachandran gave an interesting talk on Tropical Eosinophilia and Dr. Gundappa demonstrated a case of LAWRENCE MOON BIEDL'S Syndrome.

NILGIRI BRANCH

The monthly meeting of the Association was held on Saturday the 10th January 1959 at Pasteur Institute, Coonoor. Dr. P. Sanjeeva Rao, M.B.,B.S., Govt. Lawley Hospital, Coonoor addressed the members on "Four years of Emergency Surgery at on Coonoor".

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A meeting was held on Friday the 30th January '59 in Lawley Institute, Ooty. Dr. J. A. R. Miles, M. A., M. D., F. R. A. C. P. Professor of Microbiology, University of Otago Medical School, Newzealand, addressed the members on "The Virus and the Cell".

RAMNAD BRANCH

A meeting of the branch was held on 16—11—58 in K. V. Higher Ele. School, Virudhunagar. Dr. S. Raju Iyer presided. Dr. K. A. Krishnamoorthy, B.Sc., M.D., M.R.C.P., F.R.F.P.S., Paediatrician, Govt. Erskine Hospital, Madurai delivered a lecture on "Convulsive disorders in children".

A meeting of the branch was held on 8—2—59 in K. V. Higher Ele. School, Virudhunagar. Dr. S. Raju Iyer Presided. Dr. S. N. Ganapathy, M.B., B.S., Dist. Med. Officer, Madurai delivered a lecture on "Acute Appendicitis". Dr. L. R. Marthandam, M.B., B.S., L.O. gave a narration about his tour in U. S. S. R.

SALEM BRANCH

A meeting of the Association was held on Saturday, the 31st January, 1959 at Foulke's Hall, District Board, Salem. Dr. R. Saratchandra, M. S., Govt. Head Quarters Hospital, Salem, addressed the members on "Surgical Procedures in relation to family Planning".

TIRUCHY BRANCH

A monthly meeting of the Association was held on Saturday the 21st February 1959 in the Medical Association Buildings, Salai Road, Woriur, Tiruchi. Dr. G. Viswanathan the Vice-President presided. Dr. D. Harirajan, M.B., F.R.C.S., F.R.F.P.S., Surgeon, Govt. General Hospital, Madras, Dr. G. Victor, M.D., Superintendent and Physician, Government Erskine Hospital, Madurai and Dr. U. Sridhara Rao, B. Sc., M. B., B. S., Skin Specialist, Madras addressed the members on 'Tetanus and Its Management', 'Medical Emergencies', and 'Recent Advances in Dermatology Therapy' respectively.

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A monthly meeting of the Association was held on Saturday the 24th January 1959 in the Association premises, Tiruchi, Dr. R. Sambasivam presided. Dr. T. V. Venkatesan, M.B.B.Sc., F.C.C.P. (U. S. A.) F.D.S. (Lond.) F.A.I.M., Hony. Physician, Government Erskine Hospital, Madurai addressed the members on "Clinical Medicines and Therapeutics".

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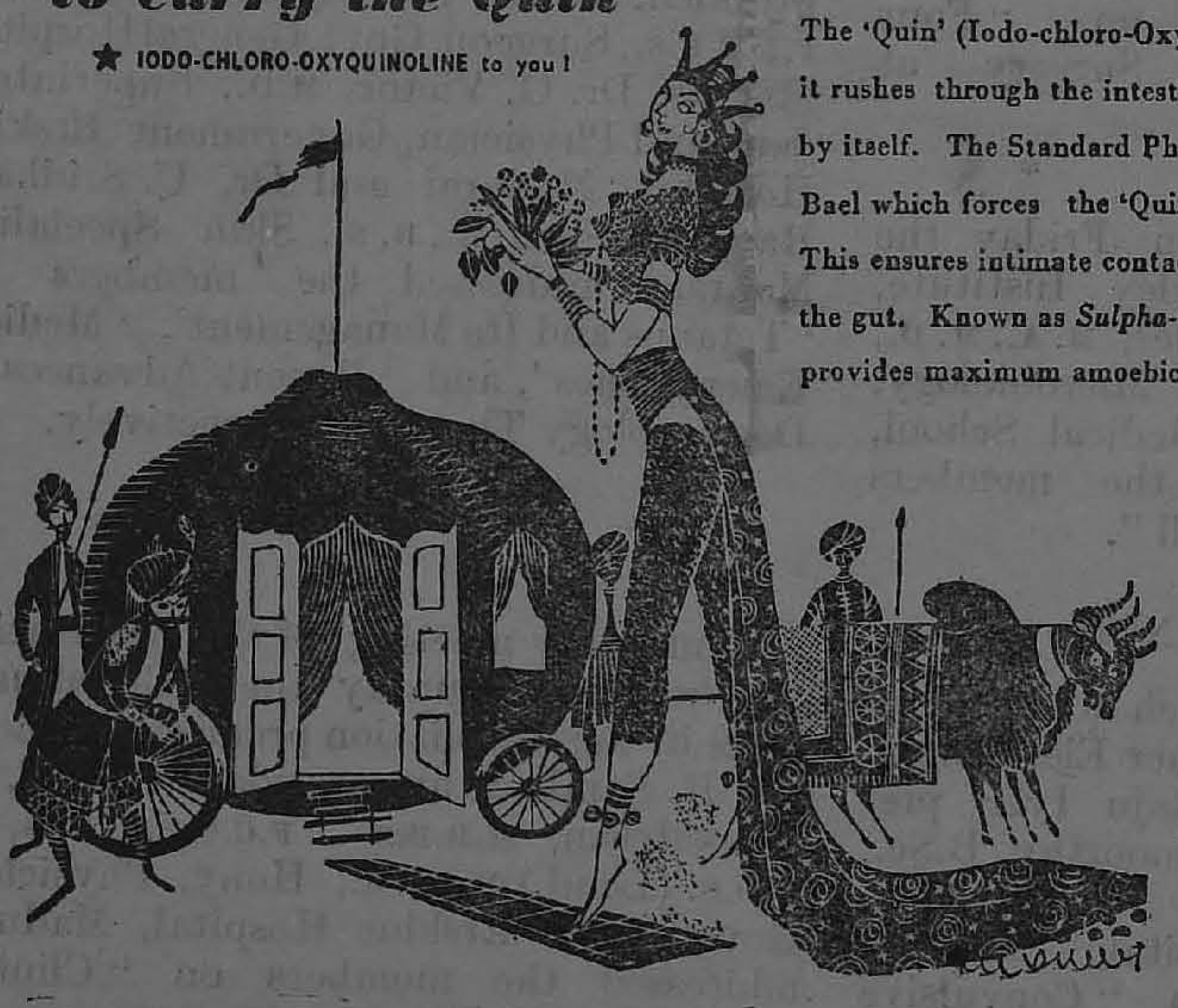

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